



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,370	06/28/2001	Steven C. Miller	SGI 15-4-415.00.(CPA2.CON	2064
5073	7590	01/07/2005	EXAMINER LEE, CHI HO A	
BAKER BOTTS L.L.P. 2001 ROSS AVENUE SUITE 600 DALLAS, TX 75201-2980			ART UNIT 2663	PAPER NUMBER

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/896,370

Applicant(s)

MILLER ET AL.

Examiner

Andrew Lee

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/28/01.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/29/02</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-23 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 23-27 of U.S. Patent No.

6,282,195. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 23-27 of U.S. Patent Number 6,282,195 encompass the limitations of claims 1-23 of instant application. Moreover, omission of a reference element whose function is not needed would be obvious to one or ordinary skilled in the art. It is well settled that the omission of an element and its function is an obvious expedient if the remaining elements performs the same function as before *In re Karlson*, 163 USPQ 184 (CCPA 1963). Also note *Ex parte Rainu*, 168 USPQ 375 (Bd. App. 1969).

In view of Claim 23 of U.S. Patent Number '195, Claims 1 and 19 of instant application have omitted, among other things, several command words such as tag,

Art Unit: 2663

packet type, a destination number for routing a particular packet to a particular destination device, etc, and recited these elements and functions in dependent forms (See claims 2-18 and 20-23 of instant application). However, the Claim 23 of '195 patent encompasses the remaining limitations of Claims 1 and 19 of instant application.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5, 9-20, 22 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Wicki et al U.S. Patent Number 5,959,995.

Re Claim 1, fig. 1 teaches plurality of Processor nodes 102-1~n and each node (first, second, and third device) coupled to ports (plurality of ports; source and destination ports) and performing interconnecting and routing of packets (a switching matrix) within Router 104. Fig. 3 teaches the frame format comprising header (a command word) containing routing information 318 (packet routing), frame header 304 of 2 to 18 words in size (data format), and data request/sent information (transaction Identification) (See col. 4, lines 54-68 & col. 5, lines 45- col. 6, lines 1-22). Since the packet data 308 is of variable length, it is inherent to include size in the packet format to enable processing of the packet. Each processing nodes 102 are connected to the

Art Unit: 2663

crossbar switches 118 via bi-directional mesh links 120. With such connectivity, each node and transmit a packet to one node or another node while receiving a packet from one node.

Re Claim 2, refer to Claim 1, packet header descriptor 310 includes information indicating the destination processor node 102 (a destination identification number).

Re Claim 3, refer to Claim 2, the packet header descriptor 310 information inherently includes the source processor node 102 to enable transmitting of the ACK (to send back response) packet back to the source processor node.

Re Claim 4, refer to Claim 1, wherein the packet header 306 includes sequence numbers (tag requests that require a response) (col. 6, lines 1-22).

Re Claim 5, refer to Claim 1, wherein it is inherent the frame format to include a packet type value indicating a particular type of packet to differentiate between ACK control packet and Information packets.

Re Claim 9, See fig. 12b, step 1218, the Mark Bit Set (a bit that is used as a SYNC barrier for write ordering), wherein the Mark Bit is used retrieving packet from buffer for writing order.

Re Claims 10, 11, 13, 14, See fig. 12a, steps 1201 and 1204, a packet is retrieved or fetched from buffer and incremented by a sequence number during transmission and decremented for retransmit packets.

Re Claim 12, refer to Claim 10, step 1214 delete packet from buffer when ACK packet is received (fetch with clear).

Art Unit: 2663

Re Claims 15 and 16, refer to Claim 10, wherein it is inherent that the steps of fig. 12a is implemented by logical OR or AND. For instance, Step 1212 is either YES or NO and Steps 1222 and 1224 are logically "AND".

Re Claim 17, refer to Claim 1, wherein ACK packet corresponds to a special packet.

Re Claims 18, 23, refer to Claim 1, wherein the frame format includes payload field (sideband bits) to transmit transfer information between send and receiving devices.

Re Claim 19, refer to Claim 1, wherein, the Cross-bar switches 118, mesh connectivity and bi-directional link 120 enables concurrent exchange of packets between each devices (first, second, and third).

Re Claim 20, refer to Claims 19, 2-5.

Re Claim 22, see claims 10, 12, 15, and 16

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wicki et al U.S. Patent Number 5,959,995.

Art Unit: 2663

Re Claim 6-8, Wichi teaches in fig. 3, the frame format can be configured to include ACK packet to indicate coherent exchange, flow control information 320 (guarantee bandwidth), and EDC 312 for error detection (an error indication).

In view to Claims 6, 8, fig. 12b, step 1212, indicates whether an ACK packet is received, YES or NO. One skilled in art would have been motivated to use a bit to indicate such determination or any bit length as long as YES or NO indication can be differentiated. Hence, it is a matter of design choice to map a bit length of "a bit" to indicate reception of an ACK packet in Wichi. The above design choice holds for error detection of EDC 312, i.e., using a bit to indicate error or non-error detection.

In view of Claim 7, it is Wichi teaches how the packet format can be configured to included flow control information whereby the transmission bandwidth is controlled. Wichi fails to explicitly disclose that the flow control information includes a bit to guarantee bandwidth. However, Wichi teaches that format includes priority information. The priority information can be modified to indicate the bandwidth guaranteed for the connection whereby the "a bit" length is a matter of design choice.

***Allowable Subject Matter***

7. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In combination with claims 19 and 21, prior art fails to teach in combination a packet including a virtual backplane bit.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Lee whose telephone number is 571-272-3130. The examiner can normally be reached on Monday to Friday from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-571-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANDY LEE  
PATENT EXAMINER  
1/05/04

